

VPDES PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the VPDES permit listed below. This permit is being processed as a minor, industrial permit. The industrial discharge results from storm water runoff and ground water discharges from a reclaimed industrial site.

1. Facility Name and Address: SIC Code: 2819

Chemetall Foote Corporation
Sunbright Site
348 Holiday Inn Drive
Kings Mountain, NC 28086

Location: State route 871 at Sunbright, near Duffield, Virginia

2. Permit No. VA0052655 Expiration Date: August 4, 2009

3. Owner Contact:

John Groves
Vice President, Operations
Chemetall Foote Corporation
348 Holiday Inn Drive
Kings Mountain, NC 28086

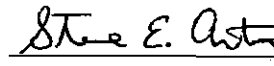
Telephone No: (704) 734-2709

4. Application Complete Date: February 25, 2009
Draft Permit Date: April 14, 2009
DEQ Regional Office: Southwest Regional Office

Permit Drafted by:


Mark S. Trent

Reviewed by:

 Date: 4/15/2009

Comment Period Dates:

from: _____ to: _____

5. Receiving Waters Classification:

Receiving Stream: Stock Creek
Rivermile: 6BSTO005.26
Basin: Tennessee - Big Sandy River
Subbasin: Clinch
Section: 2
Class: IV
Special Standards: none
Tidal Waters: No
On 303(d) list: No (Delisted 2008)

6. Licensed Operator Requirements: none

7. Reliability Class: not applicable

8. Permit Characterization:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Private | <input type="checkbox"/> Effluent Limited |
| <input type="checkbox"/> Federal | <input checked="" type="checkbox"/> Water Quality Limited |
| <input type="checkbox"/> State | <input type="checkbox"/> Possible Interstate Effect |
| <input type="checkbox"/> Municipal | <input type="checkbox"/> Toxic Management Program Required |
| <input type="checkbox"/> Compliance Schedule Required | |
| <input type="checkbox"/> Interim Limits in Permit | |
| <input type="checkbox"/> Interim Limits in Other Document | |

9. Facility Location:

The Chemetall Foote Corporation site is located off Route 871, in Scott County, in the community of Sunbright, near Duffield, VA. A location map is included as **Attachment A**.

Name of Topo: Duffield, VA 7.5' Quadrangle

Latitude: 36° 43' 38"N Longitude: 82° 45' 13"W

10. Facility Description:

The Chemetall Foote Corporation, Sunbright site is a reclaimed industrial site previously known as Foote Mineral Company and Cyprus Foote Mineral Company. The facility began operations in 1952, when Foote Mineral Company built and began operating a manufacturing plant to produce lithium hydroxide monohydrate using spodumene, a lithium mineral from their King's Mountain, NC facility, and limestone from an underground mine onsite. In 1963, the company added another operation which converted some of the lithium hydroxide monohydrate to lithium hydroxide anhydrous. Operations at the site ended in 1972.

Throughout the period between 1952 and 1972, the company used a high temperature kiln to make lithium hydroxide monohydrate from spodumene and limestone which was mined on-site. This process created large amounts of waste product (calcium aluminum silicate) which was placed on-site. Some of the waste material created from the operation was placed at several locations adjacent to the plant site; however, the majority of this waste was placed as slurry in an upland depression in an area to the south of the plant. As the slurry dried it created a solid waste material. Additional lifts of waste were placed on top of the dried portion in a ring-dike system, to eventually produce a spodumene-lime tailings pile (SLTP) of approximately 2,000,000 tons. The location of the waste pile is noted on the location map included as **Attachment A**.

When the operation re-opened in 1976, the production of lithium hydroxide monohydrate was achieved through a reaction using technical grade lithium carbonate and quicklime. The lithium carbonate was obtained from other Foote locations and shipped to Sunbright, and the quicklime was obtained from local producers. The by-product of this operation was a calcium carbonate slurry which was dewatered and stored in dry areas of the underground mine. In 1988, Foote was acquired by Cyprus Minerals Company

and its name was changed to Cyprus Foote Mineral Company. Cyprus Foote Mineral Company continued to manufacture lithium hydroxide monohydrate and lithium hydroxide anhydrous until the facility closed in 1996. In June 1998 Chemetall (a German company) acquired the Cyprus Foote Mineral Company and the name of the ownership was changed to Chemetall Foote Corporation.

In 1995, the company excavated the small tailings piles from the plant site, consolidated them at the larger tailings pile, and re-graded and capped the entire spodumene-lime tailings pile with an impervious cover. The site was covered with topsoil and re-vegetated. After the manufacturing facility closed, the company razed the buildings and removed all piping, tanks, and other facilities. The plant site was completely re-graded and re-vegetated, and its storm water impoundment and its associated discharge 001 was eliminated. All that currently remains at the plant site is a small portable building which is used as a field laboratory, and an automated water treatment facility at outfall 401 which maintains the pH of a groundwater discharge associated with the SLTP.

A site plan is included as **Attachment B**.

11. Existing Consent Order:

On November 21, 1989 the State Water Control Board issued a Consent Special Order to Cyprus Foote for violations of the VPDES permit. The Consent Order required to company to conduct a Toxics Reduction Evaluation and submit their findings by September 30, 1990. On November 28, 1990 the Board amended the Consent Special Order to extend the compliance date to June 30, 1991. An additional amendment to the order was adopted on September 26, 1994 to address the reclamation activities associated with the closure of the plant and the capping of the tailings pile.

The existing Consent Order currently requires the company to:

- a) monitor various waters around the site in order to evaluate the potential impact;
- b) submit an annual report which summarizes the data and identifies any trends or changes;
- c) maintain access to the tailings pile and;
- d) maintain the integrity and effectiveness of the final cover.

Other requirements in the order, such as a comprehensive residential groundwater study (September 1999) and final report (February 2000) have been previously satisfied. The monitoring program specified in the Consent Special Order was outlined in an attachment to the order, and the order provides a mechanism which allowed staff modifications to the monitoring plan based upon changing conditions at the site. The most recent modification to the monitoring plan was approved on August 17, 2004 includes the following requirements:

<u>Location</u>	<u>Parameter</u>	<u>Frequency</u>
Spring 18	pH, Lithium, estimated flow	Quarterly
Spring 22	pH, Lithium, estimated flow	Quarterly
Highway Marker	pH, Lithium, estimated flow	Monthly
Outfall 401	pH Lithium, estimated flow	Weekly Monthly
Outfall 004	pH, Lithium, estimated flow Chronic Toxicity	Monthly Semi-Annually

12. Reissuance Application:

The existing permit expires on August 4, 2009, and the company submitted an application for reissuance of the permit on February 5, 2009. The reissuance materials included a request to make the following changes to the permit:

- Reduce the pH monitoring frequency at 401 from Weekly to Monthly;
- Reduce the lithium monitoring frequency at 401 from monthly to quarterly;
- Eliminate the toxicity monitoring at outfall 004;
- Reduce the monitoring frequency of Lithium at 004 from monthly to quarterly.

The company also requested that a provision be placed in the permit to allow termination of pH adjustment treatment in the event that the monitoring of the raw water from outfall 401 (before treatment) indicates that the groundwater possess a pH of less than 9.0 SU for twelve consecutive months.

Similarly, the application material included a request to modify the Consent Special Order monitoring program to reflect the following monitoring plan:

<u>Location</u>	<u>Parameters</u>	<u>Frequency</u>
Spring 18	pH, Lithium, estimated flow	Quarterly (no change)
Spring 22	pH, Lithium, estimated flow	Quarterly (no change)
Highway Marker	pH, Lithium, estimated flow	Quarterly
Outfall 401	pH, estimated flow Lithium	Monthly Quarterly
Outfall 004	pH,, estimated flow Lithium	Monthly Quarterly

The proposed changes to the permit are summarized in Item 30 listed below.

13. Discharge Description:

Since 1977, the VPDES permit for the site has addressed storm water runoff and groundwater discharges from the areas surrounding the facility in an effort to minimize the potential impacts to aquatic life in Stock Creek. Lithium, and to a lesser degree, aluminum and other potential toxicants, were introduced into the local karst and surface water flow through loss of plant process water and percolation of rainwater through the waste materials. The VPDES permit and Consent Order issued to the facility have concentrated on limiting the potential toxicity of the discharges by controlling the pH and limiting the discharge of lithium into the receiving stream. The company's efforts to control the migration of lithium into ground water and surface water has primarily concentrated on eliminating the sources at the plant site, consolidating the waste materials on the SLTP, and minimizing water contact by capping the waste pile with an impermeable cover.

The facility is located at a drainage divide of two small streams in an area of karst topography. There are numerous sink holes and springs in the area adjacent to the plant site, and much of the surface water flow

from the site discharges to groundwater through the sinkholes. During previous permit terms, the company conducted an extensive assessment of the surface and ground water hydrology of the area. The results of these hydro-geologic studies identified a thrust fault system which divides the site. The fault system and its relationship to the hydrology of the area is described in detail in preliminary source control reports prepared for the TRE program during previous permit terms. The upper portion of the thrust fault (referred to as the hanging wall system) contains the area of the SLTP. The lower portion of the fault, the foot wall system, contains the plant site and underground mine workings.

The groundwater flow from the SLTP in the hanging wall system was determined to be parallel to the strike of the thrust fault planes. Consequently, groundwater flows from the pile in a northeast direction and is believed to be the primary source of Spring 18, (which is located adjacent to State Route 871), Qualls Spring (Spring 22) and internal Outfall 401.

The groundwater flow from plant site and underground mine area in the foot wall system is also generally northeastwards, along the fault zone. At locations where this flow intercepts the ground surface, it emerges as springs 11, 12 and 13 in the headwaters of Bishop Creek. Weir 13A is located at the boundary between the head wall and foot wall systems and has been assumed to represent the total surface water contribution to Bishop Creek from the foot wall karst system, and thus represent the total surface water contributions from the reclaimed plant site and groundwater contributions from the plant site and underground mine workings.

The current VPDES permit for the facility addresses the following discharge points:

Outfall 004 represents the total storm water and ground water contributions from both the reclaimed waste pile, the reclaimed plant site and the groundwater infiltration from any waste filter cake material in the mine void. This location is the final discharge location from the site, prior to the confluence with state waters (i.e. Stock Creek). This location is the final control point for wastewater from the operation, incorporates water sources discharged from the plant site, and uncontrolled ground water sources which represent potential contributions from the closed underground mine workings.

Outfall 401 is the discharge from a spring located on the southwest side of the unnamed tributary of Stock Creek. Outfall 401 was previously identified as Outfall 002, in all permits issued prior to 1999. This source of water for this spring is considered to be composed primarily of storm water runoff and ground water infiltration at the reclaimed SLTP. The spring is also thought to be influenced by the sinkhole at the former plant site. Because the source of the groundwater at this location includes seepage from the SLTP, the water has high pH levels and high lithium concentrations. Therefore, Outfall 401 is continuously treated to lower the pH to maintain the WQ standards of the receiving stream. Outfall 401 is only one component of the entire discharge from the site, but because it is the location of the treatment works it is considered to be an internal outfall and control point for 401.

14. Sludge Use or Disposal:

Not Applicable. No residuals are produced from the treatment system currently in place at the facility. Since there are no plans to remove or transport residual material, no residuals management conditions are included in the permit.

15. Receiving Waters Information:

The surface water runoff and ground water discharges from the site, including the internal control point identified as outfall 401, are directed into an unnamed tributary of Stock Creek (locally known as Bishop Creek). These waters are commingled with other untreated surface and ground waters from the site before it enters state waters.

The USGS conducted several flow measurements of Stock Creek in 1970 and 1980 at a downstream location adjacent to the Route 65 bridge near Clinchport. These measurements were correlated with the same day daily mean values from the continuous record gage on the Clinch River at Speers Ferry, VA (#03527000). The following critical stream flow volumes for Stock Creek at outfall 004 were estimated using the values at the Stock Creek measurement site and adjusting the values by proportional drainage areas:

1-Day, 10-Year Low Flow:	0.75 MGD
7-Day, 10-Year Low Flow:	0.80 MGD
30-Day, 5-Year Low Flow:	1.20 MGD
Harmonic Mean Flow:	4.50 MGD

16. TMDL Program:

Stock Creek is a tributary of the Clinch River in the Tennessee/Big Sandy River Basin. Stock Creek (waterbody ID # VAS-P13R) was initially listed on the 1998 303(d) Total Maximum Daily Load Priority List and Report as partially supporting for aquatic life use (VADEQ, 1998). A biological monitoring station located at stream mile 4.73 indicated that the segment was moderately impaired. The source of the impairment was cited to be resource extraction from the former mining and processing operations at the Chemetall Foote site and leachate from the mine tailings. The stream is also groundwater-influenced due to the limestone geology and the prevalence of sinkholes in the area. Stock Creek remained on Virginia's 2002 303(d) Report on Impaired Waters and the 2004 305(b)/303(d) Water Quality Assessment Integrated Report for violations of the General Standard (benthic).

A TMDL report was published in 2006. A copy of the report may be found at:

<http://www.deq.virginia.gov/tmdl/apptmdls/tenbigrvr/stockben.pdf>

The results of the report indicate that sediment is the most probable stressor for Stock Creek and therefore sediment was used to develop the benthic TMDL. The TMDL report also evaluated possible chemical stressors, including lithium, from the reclaimed operations at Chemetall Foote, but was inconclusive in relating any potential chemical stressors to the benthic impairment. Furthermore, the TMDL report indicated that "the lithium present in Stock Creek from the former lithium hydroxide plant is deemed not to be impacting the benthic macroinvertebrate population in Stock Creek due to the low concentrations" in the water column (Section 3.4, Page 3-15).

The final 2008 305(b)/303(d) Water Quality Assessment Integrated Report which was approved by EPA on December 18, 2008 contained the following citation regarding the segment:

The biologists revisited the sites; one in 2005 and the other in 2006. This assessment was completed using the Stream Condition Index (SCI). Both the Spring and the Fall assessments for both years were above the Stream Condition Index threshold of 60 for impaired streams. Based on the most recent sampling events, the segment is considered no longer impaired but fully

supporting aquatic life uses. The source of the benthic impairment on this segment of Stock Creek was probably leachate or runoff from the Cyprus Foote and Mineral mine tailings. It is also groundwater influenced due to the limestone geology in the area and the prevalence of sinkholes. The reasons for the improvement in 2005 and 2006 are unknown; however, the improved ranking reinforces the point that the stream is no longer impaired but fully supporting aquatic life uses.

Therefore, the segment was "delisted" and is no longer included in the state list of impaired waters.

A second downstream segment (VAS-P13R-02) was listed in 2004 for non-attainment of the fish consumption use because PCB's were detected in two species of fish (i.e. rainbow trout and brown trout). The cause of the impairment is unknown, and a TMDL is scheduled to be developed by 2016. However, because the tested fish species were not native fish, but rather species which were stocked under the DGIF trout stocking program, it is not likely that the presence of PCB's within the stocked fish was due to exposure within Stock Creek.

17. Treatment Provided:

The company maintains a continuous feed pH adjustment treatment system which uses sulfuric acid to lower the pH of the ground water discharge at outfall 401. The high pH groundwater from the spring is continuously pumped from a wet well into an above ground concrete mix tank. The rate of pumping from the wet well is controlled by the level of water, and acid from the acid storage tank flows by gravity, through a strainer and the automated control valve into the mixing tank. The neutralized water overflows from the mixing tank, and is discharged through a grate covered concrete trench to the stream locally known as Bishop Creek.

The discharge of the concrete trench is identified as outfall 401, where a pH probe continuously monitors the acidity of the discharge water. The signal from the pH probe is sent to the controller and to a strip chart recorder. The pH controller operates an automated valve to adjust the acid flow to the mix tank, and maintain the pH within the limits.

The pH monitor has low and high alarm points set at 6.0 S.U. and 9.0 S.U. In the event either of these limits is exceeded, an automated dialer system on-site will make calls to individuals to provide notification of the upset condition. In the event of failure of the wet well pump, the water would rise in the well, flow through the grate covered trench, and the higher pH of the untreated groundwater would activate the alarm. Similarly, excess treatment resulting in a low pH discharge would also trigger the alarm and initiate a call on the auto dialer.

The pH treatment system utilizes a 150 gallon cross-linked polyethylene tank as a feed source for the sulfuric acid treatment system. The tank, valves and controls is placed within a structure to protect them from weather and potential vandalism. The structure incorporates a sump underneath the elevated grate floor to function as containment for any potential spills or leakage. A polyethylene containment vessel is placed within the sump directly under the acid tank and its associated valves and piping to provide additional protection to contain any spillage and prevent acid releases.

A sketch of the treatment system is included as **Attachment C**.

The company requested that a provision be placed in the permit to allow termination of pH adjustment treatment in the event that the monitoring of the raw water from outfall 401 (before treatment) indicates that the groundwater possess a pH of less than 9.0 SU for twelve consecutive months. The VPDES permit will require that effluent from discharge at 401 be maintained in the range of 6.0 to 9.0 SU. However, should conditions change, and the operator demonstrates that the pH of the receiving waters may be maintained without pH adjustment at 401, the owner may petition the DEQ to terminate the VPDES permit for the facility.

18. Site Inspection:

Date: April 11, 2007

Performed by: D.L. Petty

A technical inspection was conducted by DEQ staff on the above date and no deficiencies were noted.

19. Discharge Flow:

Implementation of the Water Quality Standards requires that DEQ evaluate the potential toxicity of the discharge during all flow conditions up to the low flow conditions represented by critical flow volumes cited in the WQS regulations. Traditionally, the Department has evaluated conditions at industrial facilities using maximum daily flow with respect to drought flow conditions (1Q10, 7Q10, etc.) in order to estimate worst case conditions. However, since outfall 004 is surface water influenced, the traditional evaluation is overly restrictive because maximum daily flow at outfall 004 would never occur during periods of low flow in the receiving stream. Therefore, this permit action must present a reliable estimation of the contributions of 004 in order to estimate the potential effects upon the receiving stream.

The Water Quality standards require the Board to use mixing zone concepts in evaluating permit limits for acute and chronic toxicity to ensure that the effluent from the discharge does not induce toxicity to passing or drifting organisms. The Department has established a procedure to evaluate the mixing zone to determine the portion of the low flow volumes (i.e. 7Q10, 1Q10, etc.) which may be used in a simple mixing calculation to determine the wasteload allocations for each conservative pollutant. This procedure utilizes a DEQ-OWPS model to estimate a portion of the low flow which may be used as a mixing zone in accordance with 9 VAC 25-260.20.B.

Based upon stream flow information at the discharges and the results of the model, the staff has made a determination that a **complete mix assumption** is **appropriate** to evaluate the potential acute and chronic effects of the discharge. The model results indicate that the evaluation of the potential acute effects of the discharge be calculated using **100%** of the 1Q10 and the evaluation of the potential chronic effects of the discharge be calculated using **100%** of the 7Q10.

During the previous permit action the Department staff utilized the historical flow data available from the site in conjunction with a comparison of drainage area proportions to develop an estimate of worst case conditions. The evaluation concluded that under worst case regulatory drought flow conditions, outfall 004 represents an in-stream waste concentration of **13%** of the 1Q10 flow of Stock Creek. Similarly, the evaluation also concluded that the flow of outfall 401 resulted in a low flow IWC of **13%** during 7Q10 conditions of Stock Creek.

20. Ground Water Monitoring:

The company has conducted extensive groundwater monitoring of the various springs adjacent to the plant area in accordance with the monitoring plan contained in a Consent Order issued on October 9, 1998. The monitoring plan was modified effective August 17, 2004. In accordance with the current Consent Order monitoring schedule, the company conducts routine monitoring of the following locations:

- a) **Spring 18** is located adjacent to Rt 871, approximately 800 feet southeast of the plant site. The source of the spring is considered to be groundwater infiltration from the SLTP, and surface water discharge into the sink at the eastern slope of the SLTP. The entire flow of Spring 18 re-enters the groundwater regime as it flows into a sink approximately 500 feet below its emergence as a spring.
- b) **Spring 22** is located on the east side of Rt 871, approximately 2500 feet south of the plant site. This spring is also known as Qualls spring, and is located adjacent to the access road to outfall 004. The source of this spring is also thought to be affected by infiltration into the SLTP and surface water discharge into the sink at the eastern edge of the SLTP.
- c) The **Stock Creek** monitoring site, also identified as **Highway Marker** is located approximately 3000 feet below the confluence of Bishop Creek, and is a downstream monitoring location which includes all surface and ground water contributions to the watershed.
- d) **Outfall 004** represents the total storm water and ground water contributions from both the reclaimed waste pile, the reclaimed plant site **and** the groundwater infiltration from the underground mine or reclaimed plant site.
- e) **Outfall 401** is the discharge from a spring located on the southwest side of the unnamed tributary of Stock Creek. This source of water for this spring is considered to be composed primarily of storm water runoff and ground water infiltration at the reclaimed SLTP.

The results of this monitoring have been summarized in the annual reports submitted to satisfy the Consent Order Special conditions. The conclusion of these reports assert that the surface and ground water monitoring information collected from the site indicates that the remediation and reclamation activities have reduced the discharge of lithium to the receiving streams. The conclusion of the reports and the conclusion of the TMDL reports indicate that the extensive remediation and site reclamation have resulted in reduction in the release of lithium and other minerals into the water resources.

The company had proposed several modifications to the groundwater monitoring plan specified in the consent order, and any changes resulting from this request will be negotiated separately from the conditions contained in the VPDES permit action.

21. Chemical Screening:

In addition to the routine monitoring required by the Consent Order and Part I.A of the permit, the company had collected extensive analytical data during previous permit terms as part of the company's investigations into the potential toxicity of the wastewater from the operation. The result of this monitoring has identified lithium as the primary potential pollutant of concern at the site.

The pollutant screening included an analysis of the water quality standards pollutants as well as other conventional and non-conventional pollutants. The monitoring data for outfall 004 has been evaluated to determine the need for water quality based permit limits for each parameter. The results of this analysis

conclude that based upon the monitoring results conducted during the last permit term, water quality based effluent limits for individual pollutants are unnecessary to protect the water quality standards of Stock Creek. Because of the relatively low volumes and concentrations of potential pollutants discharged, and the dilution provided by Stock Creek, the discharges pose minimal threat to the numeric water quality standards of the receiving stream.

A review of the last twelve months of sampling data submitted on the discharge monitoring reports indicates that lithium concentration in the effluent from 004 has ranged from 0.7 mg/l to 5.5 mg/l, with an average discharge concentration of 2.6 mg/l. A review of the average values reported over the last 10 years indicated that the values ranged from 4.82 to 1.08 mg/l, and the overall trend indicates that the concentration has diminished over time.

Although the Department has not adopted numeric water quality standards for lithium, a literature review cited by the company in their technical evaluation submitted in November 2003 contends that lithium toxicity is not apparent in low concentrations. The studies cited in the report indicated that acute aquatic toxicity to lithium has been observed in concentrations of 17 to 186 mg/l (depending upon the species), and potential chronic toxicity was observed at 5.4 to 9.0 mg/l. Since the resulting in-stream waste concentration resulting from the discharge would be less than 1 mg/l, no potential toxic impacts are anticipated from the discharge of lithium from outfall 004.

22. Whole Effluent Toxicity Testing:

During the previous permit terms, the company has conducted extensive biological monitoring from outfall 401 (which was previously identified as Outfall 002), and has identified that the groundwater discharges from the operation are potentially toxic to aquatic life. Although this potential toxicity has been identified to be primarily due to the presence of lithium, the studies conducted to date do not conclusively indicate that this parameter is the sole source of potential toxicity. Given that there is no numeric water quality standard for lithium, a whole effluent toxicity approach is necessary to ensure that the water from the site does not contravene the general water quality standard (9 VAC 25-260-20).

In order to gather sufficient information to evaluate compliance with the standard and the possible need for a whole effluent toxicity limit based upon the total potential impact from the site, the current permit required semi-annual chronic toxicity testing at outfall 004, using both a vertebrate and invertebrate species. The results of this testing are listed in the table below.

A review of the data indicates that the discharge at outfall 004 exhibits no acute toxicity as all acute tests resulted in an LC50 greater than or equal to 100% effluent. In accordance with Part I.B.7 of the current permit, the chronic toxicity tests were performed to determine compliance with an endpoint value 14% effluent (TUc = 7.3). This endpoint was selected to represent the highest in-stream waste concentrations during worst-case condition as described in Item 19 above. Reviews of the toxicity test results indicate that none of the tests conducted during this permit term have exceeded this endpoint. Although several of the tests resulted in NOEC levels which meet the endpoint, none of the test results exhibited potential toxicity in excess of that level. The majority of the tests exhibited NOEC levels well above the worst-case potential in-stream waste concentration. Therefore, the discharge from 004 is not anticipated to have a reasonable potential to violate the general standard of the receiving stream, and the proposed draft permit will not require further whole effluent toxicity testing.

Toxicity Testing Summary – Discharge 004						
Sample Date	Species	LC50	TUa	NOEC		Tuc
9/27/04	<i>P. promelas</i>	>100%	1.0	Survival & Growth	14%	7.14
9/27/04	<i>C. dubia</i>	>100%	1.0	Survival & Reproduction	14%	7.14
5/9/05	<i>P. promelas</i>	>100%	1.0	Survival & Growth	14%	7.14
5/9/05	<i>C. dubia</i>	>100%	1.0	Survival & Reproduction	57%	1.75
9/19/05	<i>P. promelas</i>	>100%	1.0	Survival Growth	57% 14%	1.75 7.14
9/19/05	<i>C. dubia</i>	>100%	1.0	Survival Reproduction	57% 14%	1.75 7.14
5/15/06	<i>P. promelas</i>	>100%	1.0	Survival Growth	100% 57%	1.0 1.75
5/15/06	<i>C. dubia</i>	>100%	1.0	Survival Reproduction	100% 100%	1.0 1.0
9/11/06	<i>P. promelas</i>	>100%	1.0	Survival Growth	57%	1.75
9/11/06	<i>C. dubia</i>	>100%	1.0	Survival & Reproduction	57%	1.75
5/14/07	<i>P. promelas</i>	>100%	1.0	Survival & Growth	14%	7.4
5/14/07	<i>C. dubia</i>	>100%	1.0	Survival & Reproduction	57%	1.75
9/10/07	<i>P. promelas</i>	>100%	1.0	Survival & Growth	57%	1.75
9/10/07	<i>C. dubia</i>	>100%	1.0	Survival & Reproduction	57%	1.75
5/12/08	<i>P. promelas</i>	>100%	1.0	Survival & Growth	57%	1.75
5/12/08	<i>C. dubia</i>	>100%	1.0	Survival & Reproduction	100%	1.0
9/15/08	<i>P. promelas</i>	>100%	1.0	Survival Growth	57% 14%	1.75 7.14
9/15/08	<i>C. dubia</i>	>100%	1.0	Survival & Reproduction	57%	1.75

23. Anti-degradation Review & Comments:

Tier: 1 X 2 3

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. Because Stock Creek had once been identified as "impaired" and was listed for TMDL based upon non-attainment of the General Standard, the receiving water are considered to be classified as "Tier 1" and the permit is written to maintain the water quality standards of the stream. However, subsequent studies indicate that the receiving stream quality has

improved and the segment has been determined to fully support its designated use.

The application for reissuance proposes no new or increased discharges of pollutants, and the effluent monitoring results indicate that the effluent from the operation does not present a reasonable potential to violate the numeric or narrative water quality standards of the receiving stream. Therefore, this permit action will maintain the existing water quality and support the existing uses of the stream, and complies with the anti-degradation policy established by 9 VAC 25-260-30.

24. Compliance Schedules:

There are no compliance schedules contained in the permit.

25. Effluent Limitations:

Part I.A for of the existing permit imposes effluent limitations for pH and monitoring requirements for flow, total lithium and whole effluent toxicity. The following is a summary of the basis for each limit and/or monitoring requirement:

pH The pH limitations imposed at outfall 401 and 004 are a minimum of 6.0 S.U. and a maximum of 9.0 S.U., and are based upon the water quality standards of the receiving stream. The facility currently maintains an automated pH neutralization treatment system, and the discharge monitoring records for the facility indicate that the system consistently maintains compliance with the limits. The proposed permit will maintain these existing limits at the 401 and 004 locations.

Li The existing permit includes a monthly monitoring requirement for total lithium at outfalls 401 and 004. Although Virginia does not have toxicity based water quality standards for lithium, this metal has been identified to be the principle pollutant of concern at this site, and an indicator of potential effluent toxicity. The monitoring reports submitted for 004 indicate that the discharge of lithium from outfall 401 has ranged from 0.6 mg/l to 11 mg/l, with a long term average concentration of approximately 3.2 mg/l.

Below is a summary of the effluent limitations proposed for outfall 401:

() Interim Limitations Effective Dates: From: issuance
(X) Final Limitations To: expiration

PARAMETER	BASIS FOR LIMIT	DISCHARGE LIMITATIONS				MONITORING REQUIREMENT	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
FLOW (mgd)	NA	NL	NA	NA	NL	1/Month	Est.
TOTAL Lithium (mg/l)	NA	NL	NA	NA	NL	1/Quarter	Grab
pH (SU)	3	NA	NA	6.0	9.0	1/Month	Grab

The following is a summary of the effluent limitations proposed for outfall 004:

() Interim Limitations Effective Dates: From: issuance
(X) Final Limitations To: expiration

PARAMETER	BASIS FOR LIMIT	DISCHARGE LIMITATIONS				MONITORING REQUIREMENT	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
FLOW (mgd)	NA	NL	NA	NA	NL	1/ Month	Est.
TOTAL Lithium (mg/l)	NA	NL	NA	NA	NL	1/Quarter	Grab
pH (SU)	3	NA	NA	6.0	9.0	1/Month	Grab

NA = Not Applicable

NL = No Limitations

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Engineering Judgement
3. Water Quality Standards
4. Other (model, WQM Plan, etc.)
5. Best Professional Judgement

The application included a request to reduce the monitoring requirements for outfall 401 to monthly monitoring of pH and quarterly monitoring of flow. Because the continuous treatment is provided by an automated system, and a continuous pH recording system is in place to monitor the discharge, the staff recommends that the reduction in pH monitoring be granted. The operation and maintenance of the pH treatment system is also governed by the existing operation and maintenance manual which was submitted in 2004. A condition of the existing permit requires that the facility be operated in compliance with the manual and that the approved manual is an enforceable part of the permit. This condition will be continued in the reissued permit, and will be one of the principal regulatory and operational controls of the facility. Therefore, the increased monitoring frequency is unnecessary.

Similarly, the application requested a reduction in lithium monitoring from monthly to quarterly. The staff also recommends that the reduction in lithium monitoring be granted given that the historical data supports Chemetall's conclusion that the concentration of Lithium in the discharge has diminished significantly in response to the reclamation activities at the site. Since the pH treatment does not affect the concentration of lithium, monitoring of lithium is not a measure of the success of the treatment but a measure of nature of the discharge, and the success of the remediation activities. The staff recommends approval of the reduction.

The application also included a similar request to reduce the monitoring requirements for outfall 004. The proposed draft permit reflects these reduced frequencies.

26. Anti-Backsliding:

This proposed permit action conforms to the anti-backsliding provisions of the regulations. All effluent limitations contained in the proposed draft are identical to those in the current permit.

27. Proposed Special Conditions:

The following special conditions are proposed to be included in Part I.B of the VPDES permit:

- a. **EPA Industrial Reopener:** The permit includes a standard reopener to address potential changes in the permit which may be required as a result of changes in effluent standards or limitations promulgated or approved under Section 307(a)(2) of the Clean Water Act. (Part I.B.1)

Rationale: 40 CFR 122.44 requires all permits for primary industrial categories to include the requirements of Section 307 (a) (2) of the Clean Water Act. This condition is continued from the existing permit.

- b. **Notification Levels:** The permit includes a special condition which requires the permittee to notify the Department if they discharge certain toxic pollutants above established concentrations. (Part I.B.2)

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 A for all manufacturing, commercial, mining, and silvicultural dischargers. This condition is continued from the existing permit.

- c. **Erosion Control:** The permit includes a special condition which requires the permittee to maintain the existing erosion control measures employed at the site (Part I.B.3).

Rationale: Although the reclamation and re-vegetation of the site has been successful, and the company has stabilized the soil cover in the reclaimed areas, the special condition is included to ensure the continued implementation of erosion control measures. This condition is continued from the existing permit; however, it has been modified to only address the reclaimed SLTP site.

- d. **Compliance Reporting Under Part I A:** The permit includes a special condition which specifies additional monitoring and reporting requirements for Lithium (Part I.B.4).

Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when toxic and conventional pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

- e. **O&M Manual Requirement:** The permit requires the operator to maintain an up-to-date Operations and Maintenance (O & M) Manual for the pH neutralization treatment works at outfall 401. This manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. The special condition requires the permittee to review the existing manual and either submit a modified plan or verification that the existing plan is accurate and complete. The notice shall be submitted to the DEQ Southwest Regional Office

within 90 days of the effective date of the permit. (Part I.B.5)

Rationale: Required by Code of Virginia § 62.1-44.16; VPDES Permit Regulation, 9 VAC 25-31-190 E, and 40 CFR 122.41(e). These require proper operation and maintenance of the permitted facility. Compliance with an approved O&M manual ensures this.

- f. **Conditions Applicable to All Permits:** The proposed permit contains the "boilerplate" special conditions which apply to all VPDES permits. (Part II)

Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

28. NPDES Permit Rating Worksheet:

The staff has completed the NPDES Permit Rating Worksheet and has determined that the facility does not meet the criteria to be classified as a major source. The completed worksheet is on file at the regional office. Total Score: 25

29. Material Storage:

The facility consists solely of a reclaimed industrial site, and no materials are stored on site except for the chemicals used in the pH adjustment treatment system at outfall 401. The storage and containment of the treatment chemicals are addressed in the O& M Manual requirement in the permit. No additional material storage requirements or special conditions are included in the permit, and the existing industrial source storm water pollution prevention plan requirements have been omitted in previous permit actions.

30. Proposed Changes to the Permit:

The facility concluded the remediation and reclamation activities at the site in 1995. All waste materials were covered and re-vegetated and all structures and facilities were removed. The company has maintained the vegetative cover over the site and the cover of the tailings pile remains intact.

The facility has conducted extensive monitoring of ground water and surface water resources in accordance with the existing VPDES permit and existing Consent Special Order. The results of the monitoring supports the conclusion that the treatment system employed to treat the discharge of groundwater at outfall 401 is sufficient to protect the water quality standards of the receiving stream, including the general criteria of 9VAC25-260-20. This determination of no negative affect is also supported by the fact that the receiving stream segment had once been listed in several 303d water quality assessment lists, but has since been "delisted" because subsequent monitoring by DEQ had determined that receiving water fully support the criteria.

However, the operation and maintenance of the pH adjustment treatment is necessary to continue to meet the water quality standards for pH. Therefore, the VPDES Permit must be maintained, and the discharge from 004 and 401 must continue to meet the effluent limitation imposed by the permit. However, should the conditions at outfall 401 continue to improve and achieve a level which may be discharged without treatment, while still maintaining the water quality standards of the receiving stream, the owner may petition the Department to terminate the VPDES permit for the facility.

In consideration of the water quality improvements observed at the site the staff has determined that a change in the monitoring requirements for the site is justified. The following summarizes the proposed changes from the current permit:

Part I.A

- a) The monitoring frequency for pH at outfall 401 has been changed from once per week to once per month;
- b) The monitoring frequency for estimated flow at outfall 401 has been changed from once per week to once per month;
- c) The monitoring frequency for Lithium at outfall 401 has been changed from once per month to once per quarter;
- d) The monitoring frequency for Lithium at outfall 004 has been changed from once per month to once per quarter.
- e) The whole effluent toxicity monitoring requirement at outfall 401 has been eliminated.

Part I.B.

- a) The TMDL Re-opener special condition in the existing permit has been deleted because the receiving waters have been de-listed from the 303d list of impaired waters;
- b) The erosion control special condition has been modified to address only the area of the reclaimed SLTP because the former plant site may be re-developed at some future date;
- c) The O&M Manual special condition has been modified to reflect current requirements, and;
- d) The whole effluent toxicity testing special conditions have been deleted.

31. Variances/Alternate Limits or Conditions:

The following is a list of deviations from the Department's regulations, guidance, policies or procedures:

- a) Although the application identifies the SIC Code of the facility as 2819, all chemical manufacturing activity has been eliminated, and the site reclaimed. Therefore, the provisions governing the storm water management requirements of chemical and allied products no longer apply.
- b) A special condition for monitoring of potentially toxic pollutants (GM 96-009; Appendix A) is not included in the draft permit. The operation has performed extensive chemical analyses in conjunction with the TMP, a previous TRE and with the application for reissuance. These results have identified no other toxic pollutants which have a potential to contravene the numeric water quality standards of the receiving stream. Because the operations at the facilities are unchanged, and no new waste streams have been introduced, the additional monitoring information is unnecessary at this time.

32. Public Notice Information:

In accordance with 9 VAC 25-31-290, a public notice will be published once per week for two consecutive weeks in a newspaper of general circulation in the area affected by the discharge. A copy of the public notice, and all pertinent information is on file and may be inspected or copied by contacting Mark Trent at:

Department of Environmental Quality
Southwest Regional Office
355 Deadmore Street
P.O. Box 1688
Abingdon, VA 24212-1688
Phone: (540) 676-4800
E-mail address: mstrent@deq.virginia.gov

Persons may comment in writing, or by electronic mail to the DEQ on the proposed reissuance of the permit, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action.

Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

Public Notice Beginning date: _____

Public Notice End date: _____

33. Other Comments:

No certified operator is required for the wastewater treatment system.

34. Previous Board Action:

- 1) On November 21, 1989 the State Water Control Board issued a Consent Special Order to Cyprus Foote Mineral for violation of the VPDES Permit. The Order required the company to conduct a toxics reduction evaluation and submit a final report by September 30, 1990.
- 2) On November 28, 1990 the Board amended the Consent Special Order to extend the date for the TRE final report to June 30, 1991.
- 3) On September 26, 1994 the Board amended the Consent Special Order to address the proposed closure of the plant and proposed capping of the SLTP.
- 4) On October 9, 1998 the Board once again amended the Consent Special Order to address the continuing monitoring and reclamation activities at the site.

35. Staff Comments:

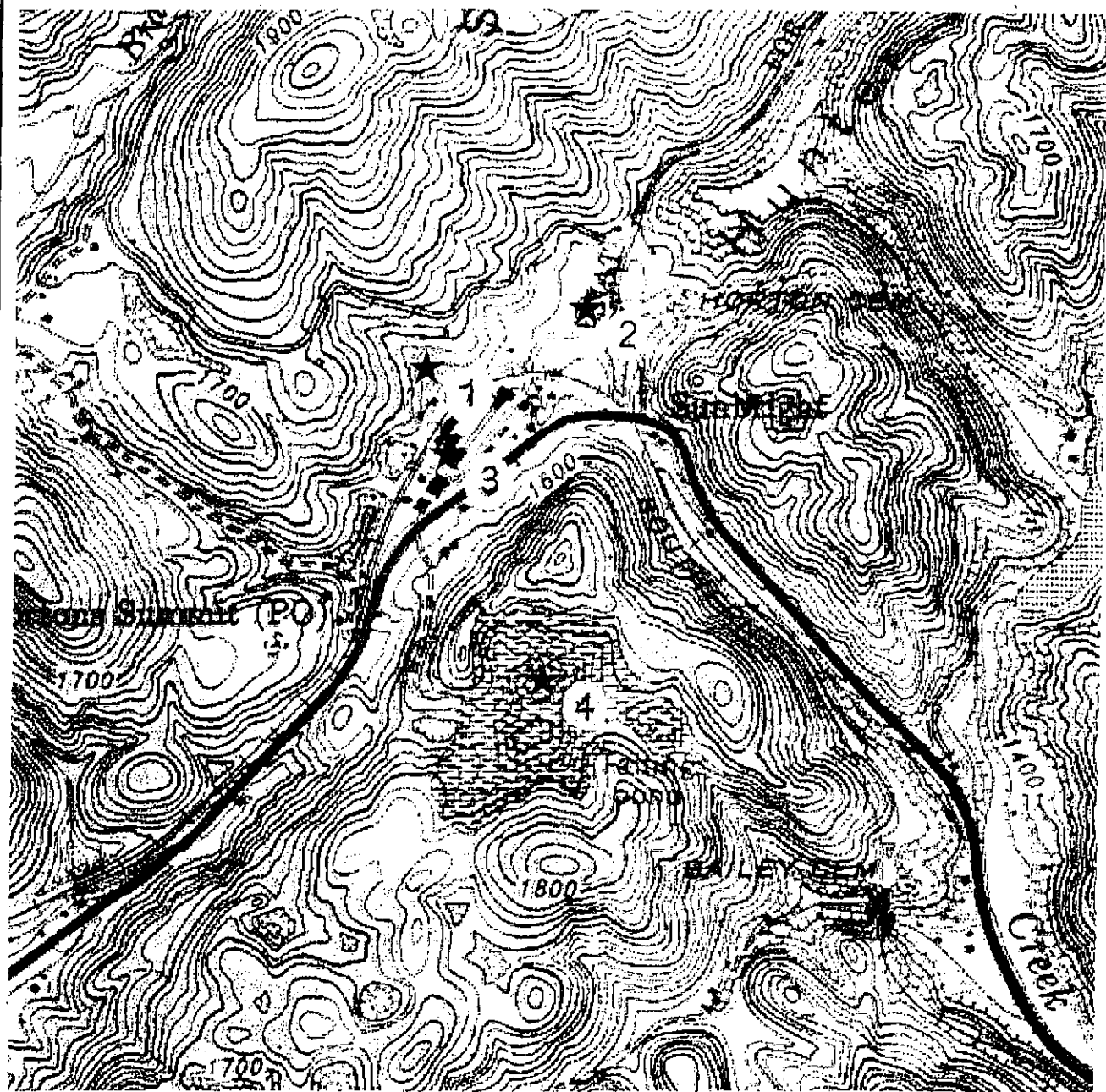
The company has complied with the all of the conditions contained within the existing VPDES permit and existing Consent Special Order. The results of the chemical and biological monitoring at the site support the conclusion that the discharge of treated groundwater from the site does not have a reasonable potential to violate the water quality standards of the receiving stream. This conclusion is independently confirmed by the findings of the TMDL report for Stock Creek (2006) and by the findings of the current 303(d) report of impaired waters (1998).

Provided that the facility continues to maintain the pH treatment system at the site, and provided that the facility continues to comply with the provisions of the proposed VPDES permit, the staff believes that the water quality standards of the receiving stream (both numeric and narrative) will continue to be maintained. Therefore, the DEQ staff would likely concur with the termination of the Consent Special Order, should Chemetall Foote elect to request a termination of the order.

The termination request should include a brief history of the site, a summary of the activities the company has taken to address the potential violations of the water quality standards, a discussion of the results of the monitoring programs, and other information as necessary to justify the termination of the consent order. The termination request should be directed to Dallas R. Sizemore, Regional Director of the DEQ Southwest Regional Office; PO Box 1688; Abingdon, VA 24212.

36. List of Attachments:

Attachment A Location Map
Attachment B Site Plan
Attachment C Treatment System Schematic



LEGEND

- 1 Mine Works
- 2 Former Location of Infilled Sink Hole and Waste Pile
- 3 Former Facilities
- 4 Capped Tailings Pile

Maps from TopoUSA Virginia Blue Ridge Highlands/Southwest CD - Duffield Quadrangle

Work Order No.: ESI.341.445

Drawn By / Date: TFL 10/27/03

Checked By / Date: JJE 10/27/03

Scale: 1" = 1,000'

Figure 1
Site Location Map

Chemetall Foote Facility
Route 871 3 miles east of
Duffield
Scott County, VA

FAULKNER & FLYNN
ENVIRONMENTAL MANAGEMENT CONSULTANTS

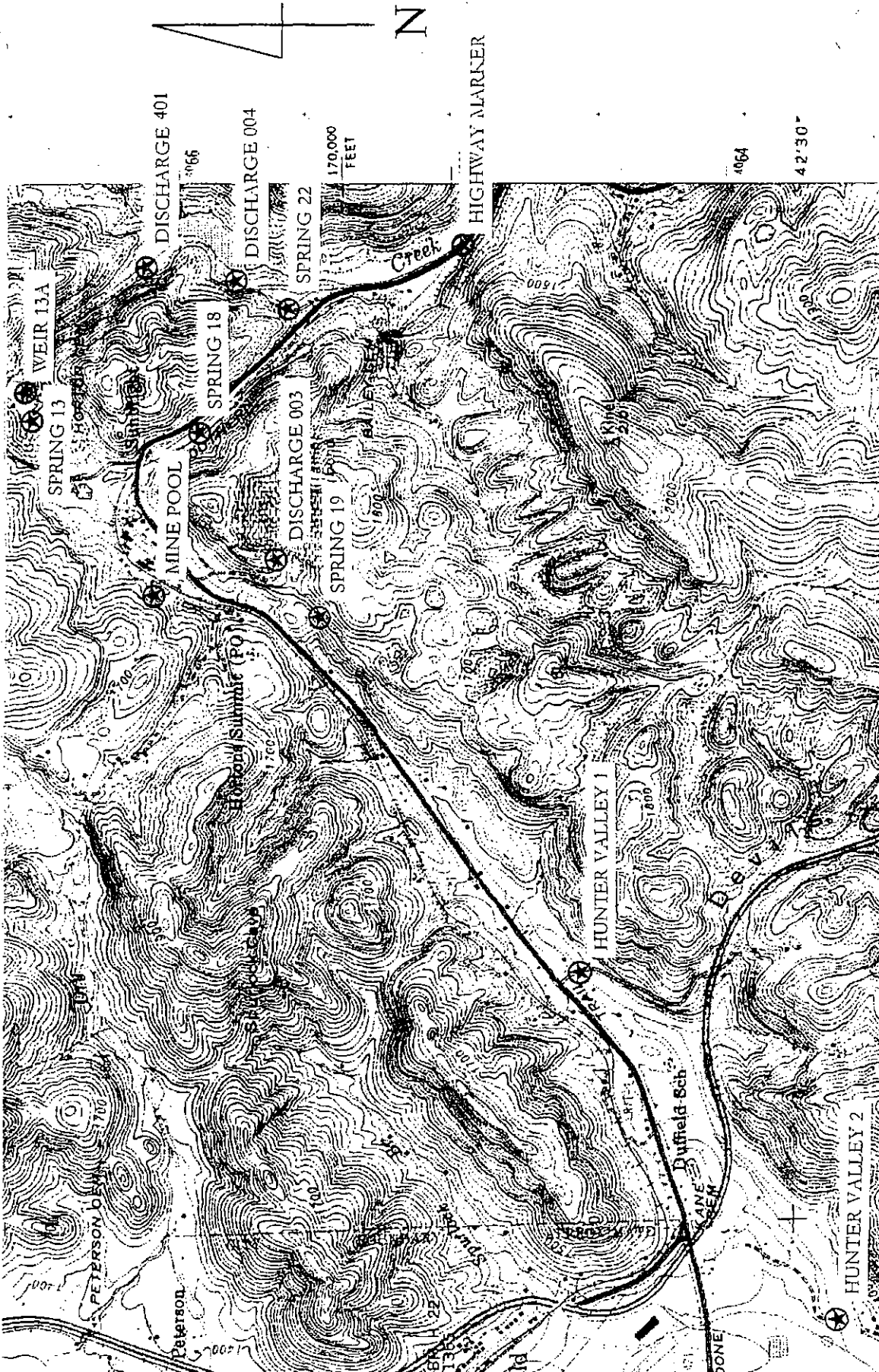


Figure 2

Permit Monitoring Locations

Chemtall Foote Facility
Scott County, VA

FAULKNER & FLYNN

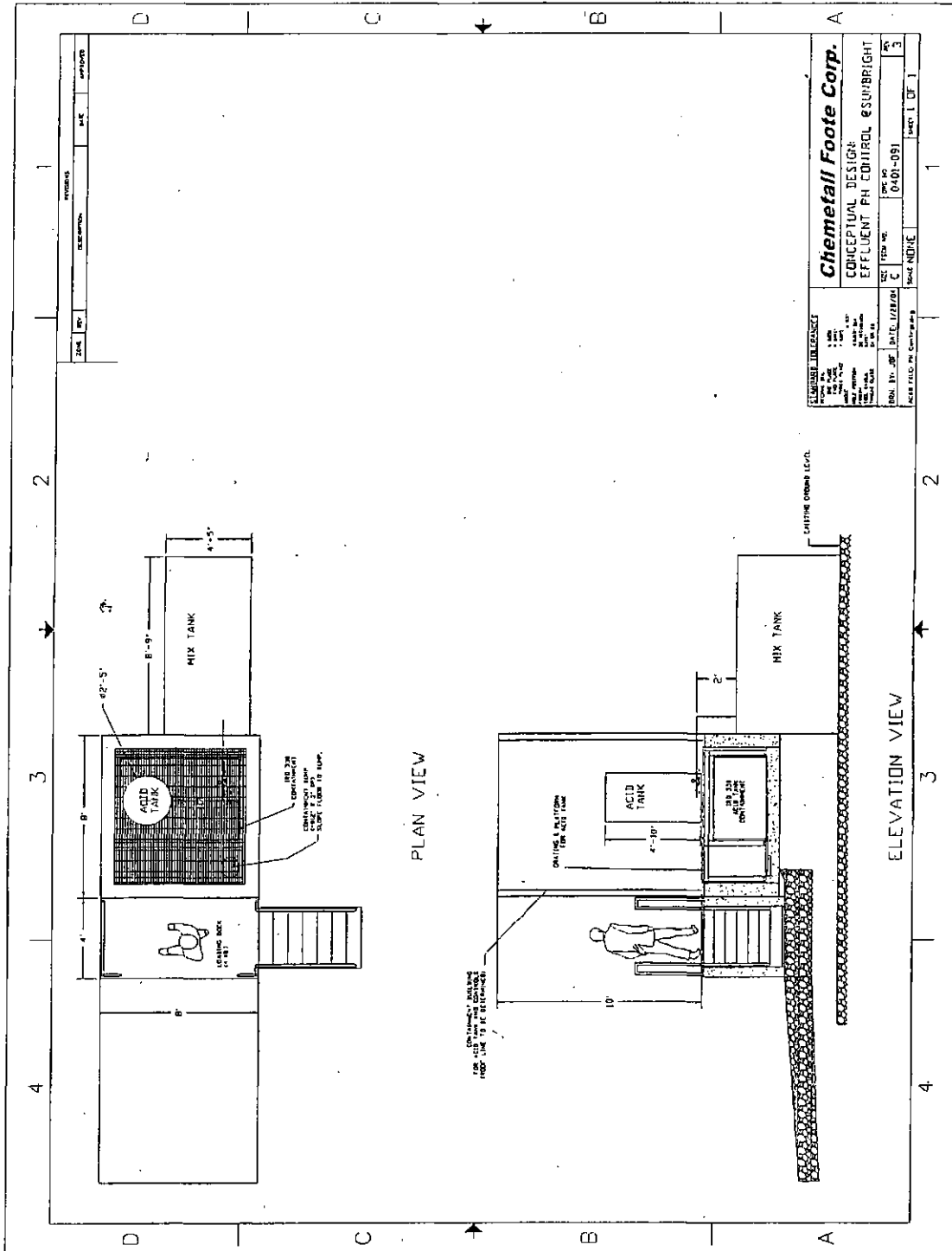
ENVIRONMENTAL MANAGEMENT CONSULTANTS

W.O. No.: ESL341445

Drawn By / Date: TFL 10/30/03

Checked By / Date: JJE 10/30/03

Scale: 1" = 1739'



Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:

Chemetall Foote Corp.

NPDES Permit Number:

VA0052655

Permit Writer Name:

M. Trent

Date:

4-14-09Major ☐Minor ☒Industrial ☒Municipal ☐**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	✓		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	✓		
3. Copy of Public Notice?		X	
4. Complete Fact Sheet?	✓		
5. A Priority Pollutant Screening to determine parameters of concern?		✓	
6. A Reasonable Potential analysis showing calculated WQBELs?		✓	
7. Dissolved Oxygen calculations?		✓	
8. Whole Effluent Toxicity Test summary and analysis?	✓		
9. Permit Rating Sheet for new or modified industrial facilities?			✓

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		✓	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	✓		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	✓		

I.B. Permit/Facility Characteristics – cont.

	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		✓	
5. Has there been any change in streamflow characteristics since the last permit was developed?		✓	

EPA Transmittal Checklist

6. Does the permit allow the discharge of new or increased loadings of any pollutants?		✓	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	✓		
8. Does the facility discharge to a 303(d) listed water?		✓	
a. Has a TMDL been developed and approved by EPA for the impaired water?			✓
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			✓
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			✓
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		✓	
10. Does the permit authorize discharges of storm water?		✓	
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		✓	
12. Are there any production-based, technology-based effluent limits in the permit?		✓	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		✓	
14. Are any WQBELs based on an interpretation of narrative criteria?		✓	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		✓	
16. Does the permit contain a compliance schedule for any limit or condition?		✓	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		✓	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?			✓
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		✓	
20. Have previous permit, application, and fact sheet been examined?	✓		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs
(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?			
2. Does the permit contain specific authorization-to-discharge information (from, where to where, by whom)?			

II.B. Effluent Limits – General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?			
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			

II.C. Technology-Based Effluent Limits (POTWs)

	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?			
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?			
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?			
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?			
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?			
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?			
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			

II.D. Water Quality-Based Effluent Limits – cont.

	Yes	No	N/A
3. Does the fact sheet provide effluent characteristics for each outfall?			

EPA Transmittal Checklist

4. Does the fact sheet document that a "reasonable potential" evaluation was performed?			
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?			
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?			
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?			
7. Are WQBELs expressed in the permit using appropriate units of measure, (e.g., mass, concentration)?			
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?			

II.E. Monitoring and Reporting Requirements

	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?			
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?			
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?			
4. Does the permit require testing for Whole Effluent Toxicity?			

II.F. Special Conditions

	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?			
2. Does the permit include appropriate storm water program requirements?			

II.F. Special Conditions – cont.

	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			

EPA Transmittal Checklist

4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?			
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?			
a. Does the permit require implementation of the "Nine Minimum Controls"?			
b. Does the permit require development and implementation of a "Long Term Control Plan"?			
c. Does the permit require monitoring and reporting for CSO events?			
7. Does the permit include appropriate Pretreatment Program requirements?			

II.G. Standard Conditions

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?			
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?			

EPA Transmittal Checklist
Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals
(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	✓		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	✓		

II.B. Effluent Limits – General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	✓		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	✓		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)

	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		✓	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?			
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?			✓
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	✓		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?			✓
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		✓	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	✓		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) – cont.

	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?			✓
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		✓	

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	✓		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			✓
3. Does the fact sheet provide effluent characteristics for each outfall?	✓		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	✓		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?		✓	
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			✓
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			✓
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?			✓
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			✓
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?			✓
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?			✓
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?			✓
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	✓		

II.E. Monitoring and Reporting Requirements

	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	✓		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			

EPA Transmittal Checklist

2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

II.F. Special Conditions

	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

II.G. Standard Conditions

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EPA Transmittal Checklist

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>MARK TRENT</u>
Title	<u>Permit Writer</u>
Signature	<u>MJ</u>
Date	<u>4-14-09</u>